

then sunk, and from them the piles rise. Captain Sir S. Brown has also proposed a plan for the erection of lighthouses in deep water upon bronze standards, and a modification of his plan was adopted by Captain Bullock. He further alluded to Mr. Bush's light of all nations; Mr. Gordon's iron lighthouses at Jamaica and the Bermudas, in which the cases are filled with a solid mass of concrete; and to the fact that Mr. Rennie had proposed iron for this purpose, as early as the year 1803, for the Bell Rock.

Having thus shown the different methods employed in the construction and erection of lighthouses, he proceeded to remark on the various plans of illumination which have been employed: of these the earliest was the coal fire and the cordonan billets of oak. In 1752, the South Foreland Lighthouse, previously with an open coal fire, was covered with a lantern with large sash windows, and the coal fire was kept bright by means of large bellows: the lantern was afterwards removed; and subsequently, at the commencement of the present century, 15 large lenses with separate lamps were placed in it. In 1790, the only exception to the coal fire was the Eddystone Lighthouse, which had a chandelier with 24 wax candles; and the Liverpool lighthouses, with oil lamps and rude parabolic reflectors. An interesting historical fact was then mentioned, viz., that parabolic reflectors were used at the Liverpool lighthouses (built in 1763), as Mr. W. Hutchinson, in his "Practical Seamanship," published that year, describes the apparatus then in use; the larger reflectors of wood, lined with small pieces of looking-glass, the small of polished tin; this was the more curious, as it had been claimed by the French for M. Teulere in 1783, and first used in Scotland in 1786. The parabolic reflectors, of which some specimens were shewn to the meeting, are now constructed upon the formula of the celebrated Captain Huddart. Having explained the catoptric, or reflecting principle of illumination, which received so great an improvement in the invention of the Argand lamp in 1780 or 85, several other lights were exhibited and described, viz., the Drummond light, the voltaic light, and the causes of their inapplicability. The present mode of illumination is from lamps constructed on a modification of the Argand principle; a first order pneumatic lamp, with four concentric wicks, shewing a most powerful light, was exhibited. The dioptric principle in which the rays of light emanate from a central lamp, and are controlled and directed by a series of lenses placed before and around it, next occupied attention. The author claimed the priority of its suggestion for an optician in London, as mentioned by Smeaton, who proposed, in 1759, to grind the panes of the Eddystone lighthouse into a sphere of 15 feet diameter. The present form of lens, generally known as Fresnel's, was first suggested by the celebrated Buffon, in his experiments on burning apparatus, to which it is probable the catoptric system owes its origin.

#### RAILWAY JOTTINGS.

THE length of new railway opened during 1847 is 750 miles; 516 in England, 127 in Scotland, and 108 in Ireland. About 150 miles are also now nearly ready for traffic. The companies on these have called up about 22,330,000*l.* during 1847. The traffic on railways in the United Kingdom, during the year 1847, amounts to about 8,950,000*l.*—being an increase over that of the preceding year of 1,235,000*l.*, or nearly 17 per cent. The aggregate length of line over which the traffic was conveyed in the first month of 1847, was about 2,710 miles; and, in the last, about 3,420 miles. Taking the average length of railway for the year at 3,100 miles, it would give 2,887*l.* as the average traffic per mile per annum.—The amount called up, during the present month, amounts to 4,677,075*l.*, the proportion on foreign lines being 211,590*l.*—being 1,500,000*l.* below that of January last, and less than might, from recent signs, have been anticipated: it is still, however, 1,360,500*l.* above the monthly average of 1847.—A late number of the *Gazette* contains notices of the dissolution of some twenty railway companies.—The principle to be adopted in assessing railways for the poor-

rate, in the several parishes or unions through which they pass, was to have been decided in the case of "the Eastern Counties Railway v. the South Weald Poor-rate;" but the case, which affects fifty to sixty parishes in one county alone, has been postponed till next session. The Eastern Company declare, that in several cases they are called upon to pay poor-rate at the rate of 600*l.* to 700*l.* a mile. They have issued about thirty notices of appeal under present circumstances.—By the simple process of a shew of tickets on the eve of transit, the North Western, at the Euston station, and from six trains merely, ferreted out about sixty pounds' worth of living profit, in the place of so much dead loss, as they reasonably conceive it would have been without such a check. The only wonder is that so obvious a way to clear such a profit is only now for the first time thought of: 600*l.*, if we recollect right, is the profit which the same company now reap by news-vending for a whole year.—The North-Western are pushing on the principal works on their main line between Skipton and Clapham without any call before March next. They propose to complete and open successive portions of the line, as far as Ingletown, by the summer of next year, and to Kirby Lonsdale by the following autumn. The works already under contract will be completed, it is estimated, at an average of 16,000*l.* per mile. The average number of shares held by each shareholder does not exceed thirty.

#### METROPOLITAN COMMISSION OF SEWERS.

A MEETING of the Metropolitan Commission of Sewers was held on Thursday, at No. 8 committee-room, House of Commons. The Right Hon. Lord Morpeth in the chair. A large body of commissioners were present. We have a full report of the proceedings in type, but from pressure on our space we must defer it till next week. The following is, however, an abstract of the principal subjects brought under consideration.

A letter was handed in from the architect to the Westminster Improvement Commissioners, in reference to the proposed systems of drainage of the new Victoria-street, in which it appeared a difference existed in the plans of the two surveyors, Messrs. Austin and Phillips, who were ordered specially to report thereon.

A supplementary report was presented from the surveyors, Messrs. Roe and Phillips, on the flushing and cleansing of sewers, cesspools, &c., which stated that since their former report 22,400 feet of sewers, in which deposit varied from 6 inches to 3 feet 6 inches, had been thoroughly cleansed, and 3,386 double loads of soil had been washed away at an expense of 500*l.*, which process under the old system would have cost 1,500*l.*; and that in one instance a large cesspool, containing equal to twenty-four loads, had been relieved entirely in 3½ hours. It also pointed out that further experiments were being made for sanitary purposes. Adopted.

A report was also presented from Sir H. de la Beche and Mr. Chadwick, on the proposed ordnance survey of the metropolis, and Lord Morpeth intimated that the Government were quite ready to afford all the assistance in their power towards the preparation of a proper plan, by furnishing the amount necessary for the purpose, and to obtain the repayment of the sum by a vote in Parliament, the commission finding lodging for the surveyors.

#### Correspondence.

##### BAD BRICKWORK THE RESULT OF EMPLOYING ORNAMENTAL CEMENTS.

SIR,—The late accident at the Euston-square Station induces me to trouble you with a few remarks on what has always appeared to me the injudicious employment of cements for ornamental purposes in architecture. It is not my intention to allude at all to the cause of the failure in question, but merely to point it out as an instance where, if genuine building materials had been employed, this lamentable sacrifice of life and property would not have occurred.

I maintain, that to the use of cement as a decorative feature must be attributed the defective and unworkmanlike brickwork of the present age, and that it is entirely in the power of architects to check this growing evil.

I look upon every cement-fronted building as a trick and a cheat most unworthy the practice of an architect. It is, in fact, a downright forgery and a lie!

Let every member of our noble profession resolve (as I am happy to say several have already done), on no pretext whatever to degrade themselves by the use of cements or patent stuccoes, and it may be relied upon that not only will our buildings be more soundly constructed, but our architecture will also be improved; for being no longer able to captivate the public gaze with cheap and meretricious ornaments stuck on to a bad design in plaster, deeper consideration and study will be devoted to the much more important feature—a well-proportioned design, which will always please, whereas nothing can compensate for the want of it.

RAPHAEL BRANDON.

11, Beaufort-buildings, Strand,  
10th Jan., 1848.

\* \* We have no reason to believe that the brickwork was badly done in the case alluded to. That the practice has tended to lessen the skill of our operatives we have already shewn.

#### PREVENTION OF ROT.

SIR,—Will you, through the medium of your useful journal, ask your scientific readers to inform me the best method to remedy a house that has the dry-rot? It is built on a wet, marshy piece of land, and the walls appear to suck the moisture up into them, or rather, the damp rises, so that no paper can be kept on, not even with battening and canvassing. The above was built in the year 1838, and has been once refloored, and now wants the same again, with the addition of new floor joists, which are now laid upon brick piers; and the stud partitions in the lower part are rotten 3 feet up. By doing so, you will confer a great benefit on me, as well as others in the same locality, and greatly oblige, Sir, yours, &c., T. G.

#### MECHANICS' HOUSES ON EASTERN COUNTIES RAILWAY.

SIR,—In one of your BUILDERS for May or June, I saw a remark that the Eastern Counties Railway Company had erected at the Barking-road station some model-houses for mechanics, consisting of parlour, kitchen, washhouse, and three chambers, with a garden to each. Will some of your numerous readers give, through your valuable publication, the dimensions of the different rooms, and probable cost, for the information of

A STAFFORDSHIRE POTTER AND  
CONSTANT READER.

#### Miscellaneous.

AN AWFUL FACT.—A correspondent of the *Times* states that in the burial-ground of St. Pancras old Church on Sunday, Dec. 12, "between 30 and 40 bodies (full 40, including stillborns, which are not registered) were piled in one common grave, amidst the murmurs of the relatives and friends of the deceased. On funeral service was said over the lot, and on replacing of earth covered the whole. The covering of earth in this ground is frequently very shallow, often only two or three feet deep; and I have heard of a mourner having recently, in his indignation, pulled out his rule and proved to the bystanders that from the surface of the top coffin to the level of the ground was less than one foot." To boast of attention to the public health while such wholesale arrangements for the dissemination of disease and death are permitted is farcical. The state of this ground was long ago noticed in our columns.

BLIND BUILDERS.—Mr. Editor: You will oblige me by inserting the following tender for the carpenters', joiners', and ironmongers' work required for the erection of eight fourth-rate houses, advertised in your number of the 18th of December last. AN EYE-WITNESS.

|                |           |
|----------------|-----------|
| Higgs          | 2967 0    |
| Dramston       | 960 0     |
| Mathews        | 856 0     |
| Cubitt         | 820 0     |
| Richards       | 800 0     |
| Kling          | 740 0     |
| Graham         | 732 0     |
| Wamleighton    | 717 10    |
| Symonds        | 711 17    |
| Raycroft       | 620 0     |
| Ashton         | 550 0     |
| Search         | 471 0     |
| Charles Graham | 452 5 (1) |